Table 2-H-18d
Bakersfield to Los Angeles – High-Speed Train Alignment Evaluation Matrix
Sylmar to Los Angeles Union Station Segment

Alignment = Alignment Carried Forward **Alignment** = Alignment Eliminated = Primary or Secondary Reason for Elimination

Evaluation Criteria	Metrolink/UPRR	I-5 Freeway	Combined I-5/UPRR
Maximize Ridership/Revenue Potential.			
Travel Time	23.6 to 31.6 min. depending upon LAUS location 2	10.6 to 11.3 min. depending upon LAUS location 5	11.5 to 12.9 min. depending upon LAUS location 4
Length	22.8 to 24.7 miles (36.7 to 39.8 km) depending upon LAUS location 3	23.8 to 24.7 miles (38.3 to 39.8 km) depending upon LAUS location 3	23.8 to 24.7 miles (38.3 to 39.8 km) depending upon LAUS location 3
Population/Employment Catchment	Not Applicable	Not Applicable	Not Applicable
Maximize Connectivity and Accessibility.			
Intermodal Connections	Not Applicable	Not Applicable	Not Applicable
Minimize Operating and Capital Costs.			
Length	22.8 to 24.7 miles (36.7 to 39.8 km) depending upon LAUS location 3	23.8 to 24.7 miles (38.3 to 39.8 km) depending upon LAUS location 3	23.8 to 24.7 miles (38.3 to 39.8 km) depending upon LAUS location 3
Operational Issues	• Speed limited to no more than 45 mph (75 kph) between LAUS and downtown Burbank. 1	• Achieves 220 mph (350 kph) operating speed throughout. • More limited station location options throughout alignment. 3	• Achieves 220 mph (350 kph) operating speed throughout. • More limited LAUS location options. 4

Evaluation Criteria	Metrolink/UPRR	I-5 Freeway	Combined I-5/UPRR
Construction Issues	• Generally at-grade construction between LA and Burbank. • Trench and significant grade separations north of Burbank. • Generally excavatable with deeper cuts in some areas requiring heavy ripping or blasting.	• Significant aerial structures along constrained freeway corridor. • Tunnel through Elysian Park – 1.9 mi. (3.0 km) total tunnel length. • Generally excavatable with deeper cuts in some areas requiring heavy ripping or blasting.	• Tunnel through Elysian Park – 1.9 mi. (3.0 km) total tunnel length. • Trench and significant grade separations north of Burbank. • Generally excavatable with deeper cuts in some areas requiring heavy ripping or blasting.
	5	1	3
Capital Cost	$1.6 Billion VHS $1.8 Billion Maglev (varies by LAUS location)	$2.4 Billion VHS $2.5 Billion Maglev (varies by LAUS location)	$2.0 Billion VHS $2.2 Billion Maglev (varies by LAUS location)
	5	1	3
Right-of-Way Issues/Cost	• Shares Metrolink R/W – railroad relocation required within existing corridor. • Accommodation of adjacent street network through trenching / grade separation • Tunnel under Pacoima Wash	• Constrained freeway right of way requires substantial new right-of-way. • Tunnel under Elysian Park	• Shares Metrolink R/W north of Burbank – railroad relocation required within existing corridor. • Accommodation of adjacent street network through trenching / grade separation • Tunnel under Elysian Park
	3	1	3
Maximize Compatibility with Existing and Planned Development.			
Land Use Compatibility and Conflicts	• May create indirect impacts on a mix of industrial/commercial/residential land uses adjacent to the alignment. • Some industrial/commercial land uses use UPRR right-of-way for parking and storage areas.	• Bypasses Burbank Airport and both Sylmar station sites. • A large portion of the alignment is elevated which will conflict with adjacent residential/ commercial/industrial land uses. • Alignment passes by numerous schools and parks. • Significant new right-of-way acquisition is required due to tight freeway curvature. • Traverses neighborhood north of Elysian Park.	• May create indirect impacts on adjacent residential/commercial/ industrial land uses. • Some industrial/commercial land uses use UPRR right-of-way for parking and storage areas. • Traverses neighborhood north of Elysian Park.
	4	2	4

Evaluation Criteria	Metrolink/UPRR	I-5 Freeway	Combined I-5/UPRR
Visual Quality Impacts	<u>On bridge:</u> • Immediately east of L.A. River from Elysian Park. Minimal impact. • East of res. area, then east of L.A. River then east of rail yard. Residences along a length of 0.5 mi. in L.A. may have some views of bridge at a distance of 1,000 to 1,500 ft. • W/in less than 100 ft. of Cypress Park (Cypress Park), across street from San Fernando Ave. <u>At grade:</u> • W/in 400 ft. of corner of Pelanconi Park (Glendale). <u>Trench:</u> • Adjacent to elementary school at Strathern and San Fernando Rd. (Sun Valley). <u>At grade:</u> • W/in 400 ft. of corner of Pelanconi Park (Glendale). • W/in 100 ft. of Recreation Park (San Fernando) • Immediately adjacent to senior high school (San Fernando).	<u>On Bridge:</u> • W/in 200 ft. of Cathedral High School Campus. • Extends 0.2 miles thru Elysian Park extension of Dodger Stadium, then tunnel portal. • North of Hwy 2 thru residential area for 1.25 mi. • East side of L.A. River through res. area for 0.55 mi. • Through Los Feliz Municipal Golf Course (L.A.). • Through North Atwater Park (L.A.). • Through Griffith Park just north of Harding Municipal Golf Course. • W/in 300 ft. of Autry Museum of Western Heritage (Griffith Park). • W/in 300 to 400 ft. of L.A. Zoo (Griffith Park). • Through soccer fields in Griffith Park. • Adjacent to west edge of Griffith Manor Park (Glendale). • Adjacent to east edge of res. area for 0.25 mi. (Glendale). • W/in 200 to 400 ft. of east edge of Woodbury University Campus (L.A.). • Adjacent to res. area for 1 mi. (LA). • W/in 400 ft. of elementary school . • W/in 500 ft. of elementary school (Sun Valley). (Unsure if 1st tier). • W/in 200 to 400 ft. of corner of Fernangeles Park (LA). • W/in 500 ft. of junior high school on Terra Bella in L.A. (Pacoima). May be 1st tier. • Though park south of Hwy. 118 and west of I-5. • Through high school campus at Rinaldi and Workman. • Immediately adjacent to sw edge of Carey Ranch Park in San Fernando.	Same as Option 2 from Union Station to intersection with Option 1 including: <u>On Bridge:</u> • W/in 200 ft. of Cathedral High School Campus. • Extends 0.2 mi. through Elysian Park extension of Dodger Stadium, then tunnel portal. • North of Hwy 2 through residential area for 1.25 mi. • East side of L.A. River through res. area for 0.55 mi. • Through Los Feliz Municipal Golf Course (L.A.). • Through North Atwater Park (L.A.). • Through Griffith Park just north of Harding Municipal Golf Course. • W/in 300 ft of Autry Museum of Western Heritage (Griffith Park). • W/in 300 to 400 ft. of L.A. Zoo (Griffith Park). • Through soccer fields in Griffith Park. • Adjacent to west edge of Griffith Manor Park (Glendale). • Adjacent to east edge of res. area for 0.25 mi. (Glendale). <u>Trench:</u> • Adjacent to elementary school at Strathern and San Fernando Rd. (Sun Valley). <u>At grade:</u> • W/in 100 ft. of Recreation Park (San Fernando). • Immediately adjacent to senior high school (San Fernando).
	4	2	3

Evaluation Criteria	Metrolink/UPRR	I-5 Freeway	Combined I-5/UPRR
Minimize Impacts on Natural Resources.			
Water Resources	No impacts.	Minimal impacts - crossing 2 minor drainages in urban setting. (100 linear ft)	Minimal impacts - crossing 2 minor drainages in urban setting. (100 linear ft)
Wetlands (sites/area)	2/3.1 ac	3/18 ac	4/21 ac
	5	4	4
Floodplain Impacts	Crosses LA River.	Crosses LA River.	Crosses LA River.
	4	4	4
Threatened & Endangered Species Impacts	No impacts.	No impacts.	No impacts.
	5	5	5
Minimize Impacts on Social and Economic Resources.			
Environmental Justice Impacts (Demographics)	1990 Minority population: 53,097 1990 In-poverty households: 8,213	1990 Minority population: 34,898 1990 In-poverty households: 4,628	1990 Minority population: 37,732 1990 In-poverty households: 5,563
	1	1	2
Farmland Impacts	• The alignment is located in an urban area with no developable farmland.	• The alignment is located in an urban area with no developable farmland.	• The alignment is located in an urban area with no developable farmland.
	5	5	5
Minimize Impacts on Cultural Resources.			
Cultural Resources Impacts	• Few recorded resources on GIS. • Overall probable impact is high; predominance of at-grade and sub-grade construction has high potential to expose buried cultural resources.	• Few recorded resources on GIS. • Overall probable impact is moderate; predominance of structure/bridge and tunnel construction has moderate potential to expose buried cultural resources.	• Few recorded resources on GIS. • Overall probable impact is moderate to high; combination of at-grade, structure/bridge, and tunnel construction has moderate potential to expose buried cultural resources.
	1	4	3

Evaluation Criteria	Metrolink/UPRR	I-5 Freeway	Combined I-5/UPRR
Parks & Recreation/Wildlife Refuge Impacts	• Low potential impact, to visual quality only. • Passes at-grade Recreation Park (San Fernando, on bridge/structure Cypress Park, Elysian Park and El Pueblo de Los Angeles State Historic Monument.	• Moderate potential impact, structures and tunnel cut in Elysian Park; visual quality only elsewhere. • Passes on structure/bridge Carey Ranch Park, Richie Valens Park, Fernangeles Park, Griffith Park, and El Pueblo de Los Angeles State Historic Monument. • Crosses Elysian Park in tunnel and structure.	• Low potential impact, to visual quality only. • Passes at-grade Recreation Park (San Fernando, and Sun Valley Park and Recreation Center • Passes on bridge/structure Griffith Park, and El Pueblo de Los Angeles State Historic Monument. • Crosses Elysian Park in tunnel and structure.
	5	1	3
Maximize Avoidance of Areas with Geologic and Soils Constraints.			
Soils/Slope Constraints	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Probably stable formations consisting of hard rock or granular continental deposits. • Low subsidence potential.	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Probably stable formations consisting of hard rock or granular continental deposits. • Low subsidence potential.	• Intermediate hardness units considered unlikely to marginal relative to compressibility. • Probably stable formations consisting of hard rock or granular continental deposits. • Low subsidence potential.
	4	4	4
Seismic Constraints	• Active fault crossings. • Medium probable ground motion from earthquakes. • Medium to high liquefaction potential.	• Active fault crossings. • Medium probable ground motion from earthquakes. • Medium to high liquefaction potential.	• Active fault crossings. • Medium probable ground motion from earthquakes. • Medium to high liquefaction potential.
	3	3	3
Maximize Avoidance of Areas with Potential Hazardous Materials.			
Hazardous Materials/Waste Constraints	• There are approximately 90 or more CERCLIS, SPL, or SCL sites.	• There are approximately 50 CERCLIS, SPL, or SCL sites.	• There are approximately 60 CERCLIS, SPL, or SCL sites.
	2	3	2

1 2 3 4 5
Least Favorable **Most Favorable**